

square root has been omitted ; on following the author's advice to calculate the P.E. for a given case on that page, I find that Castle's value corresponds neither to the correct nor to the faulty formula, the correct value being  $\pm 1.19$  instead of  $\pm 3.97$  per cent. Work on interference mentioned on p. 36 was done on the mouse, not the rat. In table 2, the phenotype of  $t^0/t^1$  in the mouse is erroneously given as tailless, though a correct statement appears in the text of a later section. The human MN system of blood groups does not contain individuals carrying neither of the genes M or N (p. 91). The order of the multiple alleles of the white eye series of *Drosophila* (p. 101) is wrong. Homozygotes for dominant spotting in the mouse do not die of an "apparent malnutrition" (p. 103), but of a well-analyzed anæmia. The death of  $t^0/t^0$  lethals in the mouse (p. 105) takes place on the seventh day of gestation, not the eleventh. The compilation of the author index leaves much to be desired.

The reviewer finds it extremely embarrassing to have to make all these critical remarks in the case of an author who, since the beginning of this century, has been a pioneer of mammalian genetics, and whose original contributions to this field have been of outstanding and lasting value. All the inaccuracies are due to obvious oversights, and if critical remarks have been made, this does not mean that the book has no positive qualities. The general aspect of mammalian genetics as seen by a man of Castle's wide experience is very well worth reading, and the excellent illustrations should prove invaluable for lecturing purposes.

H. G. HILL.

**de Beer, G. R.** *Embryos and Ancestors.* (Monographs on Animal Biology.) Oxford, 1940. Oxford University Press (Humphrey Milford). Pp. x+108. Price 7s. 6d.

PERHAPS one has to go back to the Phlogiston Theory to find an example of a faulty scientific theory whose corpse has so much hampered progress as Haeckel's "Biogenetic Law." This "recapitulation theory"

maintained that new features of evolutionary significance are added at the end of development, and that the embryo is hence a kind of history of phylogeny in condensed form. The validity of this theory has long been in doubt, but it died hard. Now Dr. de Beer has brought together all the relevant arguments to show that "gerontomorphosis," that is, the addition of features at the end of ontogeny, plays but a minor rôle in phylogeny, and soon leads to a dead end ; but "paedomorphosis," the shedding of the adult stages of ontogeny, leaves the embryo in a plastic state to follow completely new lines of development, not least because the genes, which originally governed late stages, have now become available for other and new duties. The present book is the second edition of the author's *Embryology and Evolution* enlarged and brought up to date, though not fundamentally changed. It can be warmly recommended to all students of biology.

F. R. SIMPSON.

**Waddington, C. H.** *Organisers and Genes.* Cambridge Biological Series. London, 1940. Cambridge University Press. Pp. x+160. Price 12s. 6d. net.

IN this book the author attempts to bring about a synthesis between the facts of genetics and of experimental embryology. Dr. Waddington is singularly fitted for this task, as he has first-hand experience in both these fields, and the results of several of his recent researches are incorporated in this work. This clear critical survey of the situation will provide plenty of food for thought for biologists, and deserves a wide circulation.

F. R. SIMPSON.

## SOCIOLOGY

*The Criminal Statistics England and Wales*, 1938. Cmd. 6167. London, 1940. H.M.S.O. Price 4s.

To some people crime and criminals are attractive because it is assumed that there

is something mysterious about the former, and something exceptional about the individual offender; some find the subject repellent; more enlightened persons regard it as being a matter of bio-social importance. The Criminal Statistics clearly show how close we all are to crime and the criminal, for during the year 1938 the total number of persons found guilty of all kinds of offences in England and Wales was 787,482.

The figures lend no support to the view that there is necessarily something exceptional in the make-up of the offender. Among every thousand boys aged thirteen there were found 13 guilty of offences; among boys aged fourteen to sixteen the figure drops to 11; among boys of seventeen and eighteen to 8; among youths of nineteen to 7.7; among young men aged twenty-one to twenty-five to 5.5; among men aged twenty-five to thirty to 4; among men aged thirty to forty to 3; among men aged forty to fifty to 1.8. The figures for women show a similar decrease of lawlessness with increase of age. The most lawless age groups are those of girls aged fifteen to nineteen, and thereafter there is a continuous decrease in every age group. Of 78,463 persons found guilty of indictable offences, 68,679 were men and boys, and 9,784 were women and girls. The incidence of crime is nearly eight times greater among males than females. Amongst every 10,000 women and girls in the population there were 5 indictable offenders; amongst every 10,000 men and boys there were 39. There appears to be no reason to consider that boys of thirteen years of age are nearly twice as mentally abnormal in their make-up as lads of nineteen, or that men and youths are eight times more mentally abnormal than women and girls. There can be no doubt that the tendency to break the law is widespread, and the pathological offender forms somewhere less than 20 per cent. of offenders who came before the criminal courts.

That the various punitive measures are successful, namely supervision by a probation officer, dismissal, or binding over without supervision, fining or imprisonment, is shown by an analysis of the records of

17,918 males and 2,749 females who were in the year 1932 over sixteen years of age, were found guilty in that year of offences sufficiently serious to warrant the taking of finger-prints, and had no previous proved offences against them. Although many of these persons may have been guilty of earlier offences which had not been brought home to them, they were all first offenders in the sense that no previous offence was known to the police. Of the older persons 90 per cent., and of the younger persons over 70 per cent., were clear of any further charges during the subsequent five years.

The number of persons found guilty of traffic offences was 475,124, or 60.3 per cent. of the total. Drunkenness and other offences against the intoxicant liquor laws accounted for 7.2 per cent., and larcenies 7.1 per cent. Non-indictable cases of assault formed 1.4 per cent., and indictable cases of violence against the person 0.2 per cent.

During the year 84 cases of murder of 93 persons aged one year or over were known to the police. In 30 cases, involving 37 victims, the murderer or suspect committed suicide. In 48 cases, involving 50 victims, 50 persons were arrested; in 6 cases, involving 6 victims, one of whom died following an illegal operation, no arrest was made. Of those arrested, 3 were discharged at the police court, 10 were acquitted, and 18 were found to be insane. Of the 19 convicted, one was ordered to be detained during His Majesty's Pleasure, under Sec. 53, The Children and Young Persons Act, 1933, 9 were executed, and in 9 cases the sentence of death was commuted to penal servitude.

The Coroners' Returns show that 5,263 persons committed suicide. In addition 3,303 cases of attempted suicide came to the knowledge of the police. No person under 14 years of age committed suicide, 2 boys and 2 girls under that age attempted to do so. Many more men committed suicide at 60 years and over than in any earlier 10-year period, the greatest number of women suicides occurred between the ages of 50 and 60 years.

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